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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, HAU H

ART UNIT PAPER NUMBER

2628

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/810,605	HONG ET AL.	
	Examiner	Art Unit	
	Hau H. Nguyen	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/14/06</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments with respect to claims 1-41 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6-9, 11-24, 26-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Vaswani et al. (U.S. Patent No. 6,333,746).

Referring to claim 1, Vaswani et al. teach a method of processing data defining a plurality of first polygons and texture data therefor, to generate data defining a texture map, the method comprising:

determining a respective measure of the importance of the texture data for each first polygon (*determining the texture map 44 of the polygon 30, Fig. 2*);

defining a respective second polygon (*e.g. polygons 59 or 61, Fig. 2*) in a two-dimensional area for each first polygon to store texture data therefrom, such that each second polygon is defined with an area dependent upon the measure of the importance of the texture data (*dependent upon the level of detail, col. 9, lines 15-40, Figs. 2 and 5*) determined for the corresponding first polygon and such that the area increases as the importance of the texture data to be stored therein increases (col. 10, line 49 to col. 11, line 6, i.e. large storage area is

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allocated for texture data with LOD 0 (1024 x 1024) for polygon 59, while small storage area is allocated texture data at LOD 3 (128 x128) for polygon 61, Fig. 2); and

generating texture data for the second polygons in dependence upon the texture data for the first polygons (col. 12, lines 53-63).

As per claims 2-3, as cited above, Vaswani et al. teach the measure of importance of texture data is dependent upon the *content* (level of details) *of texture data*, and the determination of the measure of importance of texture data is based upon the amount of detail in texture data (*measure of uniformity of texture data*).

As per claims 4 and 8, Vaswani et al. teach each measure of the importance of texture data for a first polygon is determined in dependence upon color component values of the texture data (col. 8, lines 63-67).

As per claim 6, Vaswani et al. teach each measure of the importance of the texture data for a first polygon is determined by calculating a measure of an extent of differences in values of the texture data (such as comparing the area bounded by adjacent texels with ranges of values and selects an appropriate texture map based on which range of values a cross product magnitude lies; col. 4, lines 27-34).

As per claim 7, Vaswani et al. teach filtering texture data (through interpolation, col. 2, line 66 to col. 3, line 6).

As per claim 9, Vaswani et al. teach each measure of the importance of the texture data for a first polygon is determined in dependence upon edges in the texture data (Fig. 1A, col. 3, lines 1-6).

As per claim 11, as cited above with reference to Fig. 2, the connectivity of the first polygon 30 is different from the connectivity of the second polygons (e.g. polygons 59 and 61).

As per claims 12 and 13, Vaswani et al. teach the first and second polygons comprising triangles (Fig. 1).

As for claim 14, as cited above, it is inherent the method as taught by Vaswani et al. above comprising a signal carrying data should be generated for defining the generated texture map.

As per claim 15, Vaswani et al. teach storing the generated texture map in texture map engine 126 (col. 8, lines 42-44).

Claims 16-24, 26-41, which are similar in scope to claims 1-4, 6-9, 11-15 above, are thus rejected under the same rationale.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 10, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaswani et al. (U.S. Patent No. 6,333,746) in view of Bright (U.S. Patent No. 6,897,977).

As per claim 5, Vaswani et al. fails to teach each measure of the importance of the texture data for a first polygon is determined in dependence upon grayscale values of the texture data. However, as cited in previous Office Action, this is what Bright teaches (Fig. 1A, block 24).

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Therefore, it would have been obvious to one skilled in the art to utilize the method as taught by Bright utilizing the grayscale of texture data in combination with the method as taught by Vaswani et al. in order to provide more precision to the pixel and therefore, more realistic image.

As per claim 10, Vaswani et al. did not explicitly disclose user input signals conveying importance for each of at least some of the first polygons. However, Bright teaches the method additionally enables a user to define one or more areas within an image that are to be compressed such that the detail in these areas is preserved at a higher level than other areas in the image that are not selected (col. 10, lines 53-65). Thus, at least claim 10 would have been obvious.

Claim 25, which is similar in scope to claim 5 above, is thus rejected under the same rationale.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 form.

Economy et al. (U.S. Patent No. 5,367,615) disclose a method of smoothing LOD transition by generating different level of detail to the basis polygon.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 571-272-7787. The examiner can normally be reached on MON-FRI from 8:30-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794.

The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-2 17-9197 (toll-free).

H. Nguyen

6/22/2006



Kee M. Tung
Primary Examiner